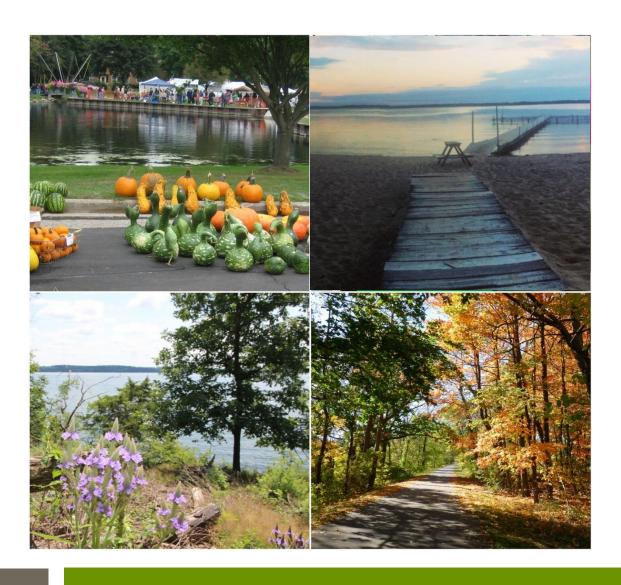
2017 COMMUNITY HEALTH ASSESSMENT



Adams

Central Wisconsin Health Partnership (CWHP)

["For he who has health has hope; and he who has hope, has everything."- Owen Arthur]

2017 CWHP Community Health Assessment

CENTRAL WISCONSIN HEALTH PARTNERSHIP

TABLE OF CONTENTS

Letter from the Health Officers

Acknowledgements - Partners & Steering Committee

CWHP Public Health Mission and Vision

Method Overview

Community Health Assessment

- a. Demographics Population, Age, Gender, Race and Ethnicity, Income, Unemployment
- b. County Health Rankings Health Outcomes, Length of Life, Quality of Life
- c. Overall Health
- d. Chronic Disease Cancer, Diabetes, Heart Disease
- e. Communicable Disease
- f. Environment
- g. Access to Healthcare
- h. Health Behaviors- Smoking, Physical Activity

Health Focus Areas

- a. Criteria Used
- b. Focus 1. Alcohol and Other Drug Abuse
- c. Focus 2. Mental Health
- d. Focus 3. Nutrition and Physical Activity (Adams County Priority)

Appendix A

a. Assessment and Planning Process (Rationale, Framework, Timeline)

Appendix B

a. Community Health Assessment- Adams County Data

Appendix C

a. Community Feedback and Steps Forward

LETTER FROM THE HEALTH OFFICERS

The six health officers from the counties of Adams, Green Lake, Juneau, Marquette, Waupaca and Waushara which make up the Central WI Healthcare Partnership (CWHP) understand that the overall health of a community is a shared responsibility. These health departments along with many other stakeholders including government agencies, healthcare providers, nongovernmental organizations and community members have provided thoughtful input to this Community Health Assessment. CWHP has a history of collaborating successfully on a number of projects in the past and decided that a blended Community Health Assessment would provide another opportunity to share, learn and explore best practices that would improve health outcomes in our rural communities.

This document is intended to be a resource that will not only help CWHP with planning and implementation of programs, but can also be used by community planners, practitioners and policy developers as they identify actions to improve health priorities. The Community Health Assessment (CHA) includes key drivers to community health needs such as: access to care, socioeconomic factors, limited preventative and screening services, chronic disease, mental health, drug abuse and more. Information on demographics, health and societal risk factors for each of the six counties is included. Community input on the perceived health needs of the region was used to complement publicly available data. CWHP used all of this information to prioritize significant community health needs.

Each Central WI Healthcare Partnership member is deeply rooted in their respective communities with a variety of established programs and services to support the health of the community. Despite the continuous efforts of our CWHP Partners, all six counties identified gaps when it came to behavioral health and the treatment of substance use disorders. The CWHP hopes to leverage resources and synergies within the boundaries of our system to provide population-based services with comprehensive programs targeted at those most at risk for poor mental health and drug use disorders. Data collected will assist us in developing a roadmap to direct resources where services are needed most and the impact will be the greatest.

Although all six counties identified gaps in mental health and AODA services, each county also has unique concerns. For that reason, each of our partners has also identified individual health priorities. CWHP members will spearhead efforts to connect the community on regional and individual community goals. Resources and plans to improve the community's health and achieve measurable results will be developed and implemented.

The goal of CWHP is to work within our community and collaborate regionally, to achieve a positive impact, resulting in better health for each of our counties.

The CWHP Health Officers,

Sarah Grosshuesch

Adams County

Barb Theis

Juneau County

Jayme Schenk

Jed Wohlt

Marquette County

Waupaca County

Waushara County

ACKNOWLEDGEMENT

CWHP Community Health Assessment Partners

We would like to express our appreciation to the health care partners in our communities who participated in the 2017 CWHP Community Health Assessment. They shared their concerns, ideas, and other invaluable information to help improve the health of our communities. Representatives from the organizations listed below helped develop this report by attending meetings, providing data, technical assistance, and completing surveys. We thank each one of you for the part you played, and we look forward to future partnerships.











Steering Committee

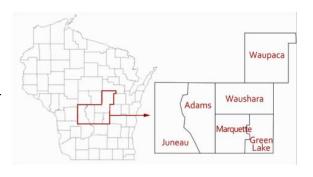
Sarah Grosshuesch, Adams County Health Officer Kathy Munsey, Green Lake County Health Officer Makiko Thomas Omori, Green Lake County Intern Barbara Theis, Juneau County Health Officer Jayme Schenk, Marquette County Health Officer Lauren Calnin, Marquette County Health Educator Jed Wohlt, Waupaca County Health Officer Patti Wohlfeil, Waushara County Health Officer Trevor Cooper, Waushara County AmeriCorps Member



Visions and values

Who we are:

The Central Wisconsin Health Partnership is a consortium among the Departments of Health and Human Services of Adams, Green Lake, Juneau, Marquette, Waupaca, and Waushara Counties. This Community Health Assessment comes from the public health departments in these counties.



Vision:

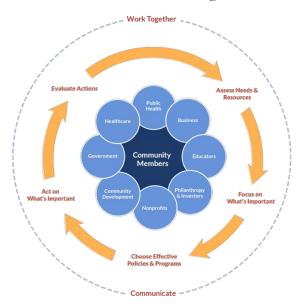
To be the healthiest counties in Wisconsin

Mission:

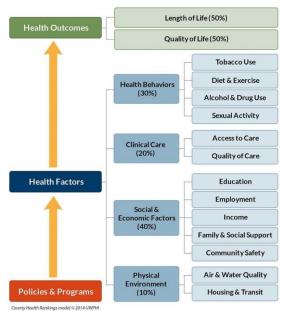
Improve the health of the public and achieve equity in health status for the Central Wisconsin region

METHOD OVERVIEW

The six counties started the Community Health Assessment (CHA) in 2015. It is mandated in Wisconsin Statute 251.05(3) that a local health department shall "regularly and systematically collect, assemble, analyze and make available information on the health of the community, including statistics on health status, community health needs, epidemiologic studies of health problems, other studies of health problems (Department of Health Services)." Our overall process followed the Wisconsin Guidebook on Improving the Health of Local Communities. This framework is built on the Take Action Cycle model used by the County Health Rankings and Roadmaps. The steps taken for the needs assessment were to Assess Needs & Resources and to Focus on What's Important while emphasizing collaboration and open communication.



The assessment includes primary data from communicable disease reports, death records, local provider numbers, hospital admissions, and youth risk behavior surveys. The secondary data includes, but is not limited to, County Health Rankings, Wisconsin Department of Health and Human Services, and the U.S. Census Bureau.



This data, along with key informant interviews, surveys, focus groups, and community forums were used by the steering committee to determine the health focus areas.

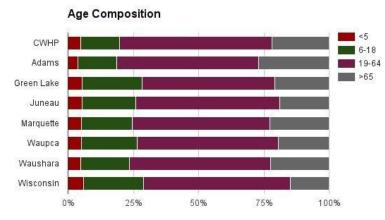
This assessment will then be used to develop a Community Health Improvement Plan (CHIP).

COMMUNITY HEALTH ASSESSMENT

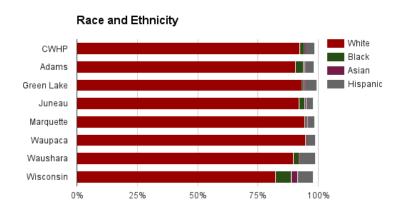
Demographics

	Total Population	Female	Male	Urban	Rural
CWHP	156,281	48.22%	51.88%	19.14%	80.86%
Adams County	20,148	46.70%	53.30%	0%	100%
Green Lake County	18,856	49.60%	50.40%	25.67%	74.33%
Juneau County	26,224	46.90%	53.10%	16.51%	83.49%
Marquette County	15,075	49.20%	50.80%	0%	100%
Waupaca County	51,945	49.60%	50.40%	35.06%	64.94%
Waushara County	24,033	47.30%	52.70%	10.50%	89.50%
Wisconsin Source: U.S. Census Bureau	5,724,692	50.30%	49.70%	70.15%	29.85%

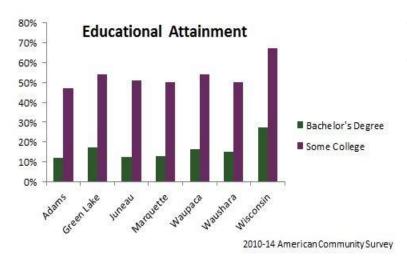
Overall, the elderly population is growing. By **2030** nearly 30% of CWHP residents will be 65 years and older (Wisconsin DOA). The health needs of the community will shift, as the aging health concerns grow. This will require more focus on chronic disease prevention. Delaying the onset of chronic disease is essential to creating a healthier community.



Source: U.S. Census Bureau



While the graph shows minimal racial and ethnic diversity in CWHP counties, our Amish and Hispanic communities bring a unique variety of culture and customs. Racial and ethnic disparities in health factors, including access to care and income level, are one of many factors that contribute to inequalities in health status. Eliminating these disparities is challenging, yet vital to improving our communities.



The relationship between higher education and improved health outcomes is well known, with years of formal education correlating strongly with improved work and economic opportunities, and reduced psychosocial stress (Egerter, Braveman, Sadegh-Nobari T, Grossman-Kahn, and Dekker 2011).

CWHP has a lower number of adults with any form of formal education past high school. Those with 'some college' refer to those who have not completed their degree, whether it is vocational/technical, an associate's, and/or a bachelor's degree.

Income and Poverty

Having a higher income is linked to better health (World Health Organization). It's not just the level of income that affects the health of our communities, but also the distribution of the income. The larger the income disparity, the larger the health inequalities will be. The average per capita personal income of CWHP is \$38,509, which is \$5,677 lower than Wisconsin's average. Compared to the nationwide average, the gap is over \$7,000.

2014 Per Capita Personal Income



WI Department of Workforce Development

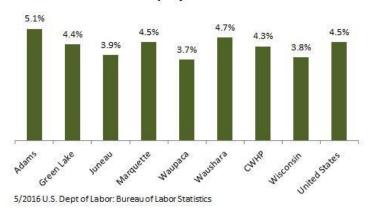
2015 Average Wage



The low average personal income can be partly attributed to two factors: the wage paid by employers in the individual counties, and the counties' unemployment rates. The graph to the left illustrates the average wage paid by employers located in the county. Using these numbers the average wage for those in CWHP is \$35,184. This is \$10,205 lower than Wisconsin and \$13,136 lower than the national average.

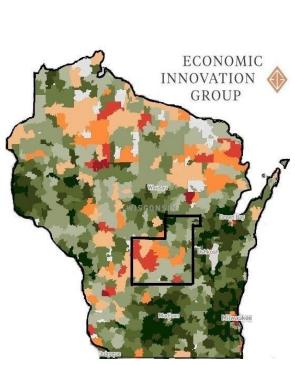
With the exception of Waupaca, all of the CWHP counties had higher unemployment rates than the state in May 2016. Acknowledging the relationship between one's health and economical status, CWHP hosted the Central Wisconsin Health & Economic Summit in August 2015. This event helped develop strategies to improve the health and vitality of our communities, with a focus on workforce development. A detailed description of the summit can be found in Appendix A.

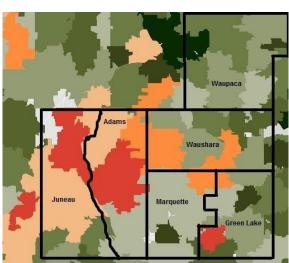
Unemployment Rate



Distressed Communities Index

The index combines seven measures to present a complete and multidimensional picture of economic distress - or prosperity - in U.S. communities (Economic Innovation Group). Much of the data comes from the American Community Survey and County Business Pattern Data. This index further illustrates some of the economic challenges facing CWHP.



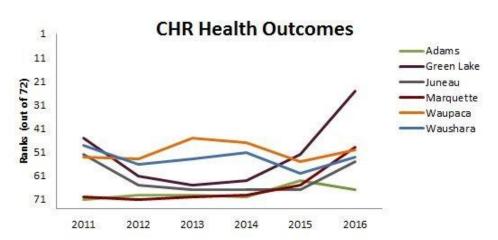


Index numbers are based upon the following measures.

- No High School Degree
- Housing Vacancy
- Adults Not Working
- Poverty Rate
- Median Income
- Change in Employment
- Change in Business Establishments



2016 Wisconsin County Health Rankings



County Health Rankings & Roadmaps Building a Culture of Health, County by County

A Robert Wood Johnson Foundation program

The Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute produce County Health Rankings each year. These report the overall health of each county in Wisconsin. The

report ranks all 72 counties based on measures of health outcomes and health factors, with the healthiest county being ranked #1. The counties of CHWP, in general, have been improving ranks in overall health outcomes. While the rankings should not be compared year to year, creating a trend line can offer a picture of the health status for the past 5 years. We will continue to strive to improve our health factors and outcomes, and become the healthiest counties in Wisconsin.

Length of Life					
Green Lake	17 th				
Waupaca	47 th				
Marquette	55 th				
Waushara	58 th				
Juneau	59 th				
Adams	70 th				

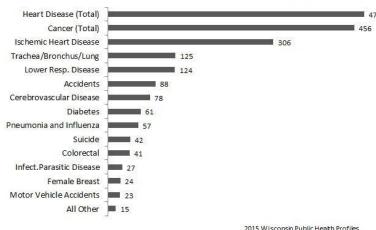
Quality of Life						
Marquette	29 th					
Waushara	45 th					
Green Lake	46 th					
Juneau	47 th					
Waupaca	60 th					
Adams	64 th					



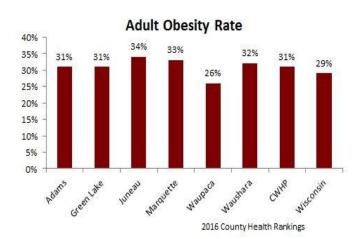
Overall Health

In 2013 there were a total of 1,941 deaths in CWHP. The vast majority of deaths in the six counties can be attributed to chronic disease and unhealthy behaviors. It is also important to note the high number of suicides in CWHP. Attributing factors will be discussed in the Second Health Priority.

CWHP Underlying Cause of Deaths (2013)



2015 Wisconsin Public Health Profiles



Obesity in CWHP

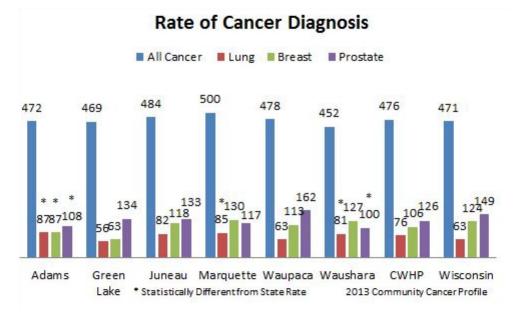
With the exception of Waupaca County, all counties in CWHP have rates of obesity higher than the state average. High rates can be attributed to lower individual and environmental socioeconomic status, along with the built environment - which may then be related to health attitudes and behaviors contributing to obesity (McAlexander, Banda, McAlexander, Lee 2009). In order to combat this growing epidemic, positive change must come to all parts of society, especially to areas of policy and environmental change.

Chronic Disease

Prevention of chronic disease such as diabetes, heart disease, and cancer not only assures a strong quality of life, but also results in a decreased economic burden on our health care system.

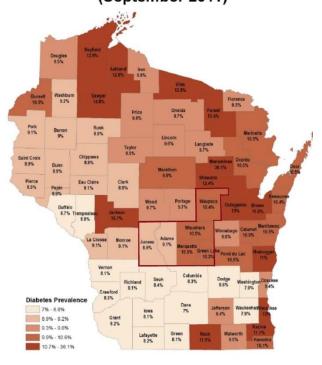
Cancer

The rates of cancer for CWHP are slightly higher than the state average, with the largest difference attributed to lung cancer. This can most likely be attributed to the high

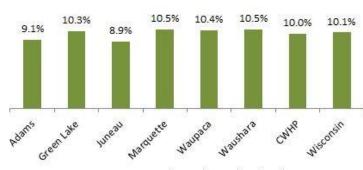


smoking rates in CWHP seen on page 17.

Total Diabetes Prevalence in Wisconsin Adults by County (September 2011)



Estimated Diabetes Prevalence in Adults



(2011 The Burden of Diabetes in Wisconsin)

Diabetes

Diabetes is a serious and complex condition, which when left unchecked can lead to a lower quality of life. Nerve damage, heart disease, stroke, blindness, kidney disease, and amputations are all possible if it is left uncontrolled. These complications can be managed through a healthy diet, avoiding smoking and alcohol, and incorporating regular activity.

Heart Disease

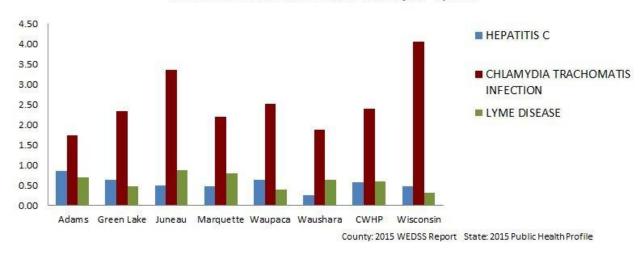
Heart disease was the leading cause of death for CWHP in 2013. Another way to measure the burden heart disease has on our counties is by looking at how often residents visit the emergency room for heart issues. Every hospital in CWHP has some form of heart related issue in their top ten types of ER visits.

Hospital	Berlin	Waupaca	Wild	Mile	New	Moundview	Ripon	Divine
			Rose	Bluff	London			Savior
Rank	#2	#2	#8	#4	#7	#3	#2	#6
Reason	Chest	Chest	Heart	Cardiac	Chest	Chest Pain	Cardiac	Chest
for Visit	Pain	Pain	Attack	Related	Pain		Related	Pain

Communicable Disease

Public Health plays an important role in preventing, monitoring, and controlling diseases that can spread from person to person in a variety of ways. These diseases can come from other humans through the air, skin contact, blood and bodily fluids, or from a variety of animal hosts like mosquitos or ticks. CWHP as a whole has higher rates of Hepatitis C and Lyme disease. The Lyme disease rate is of no surprise, as it is more common in the central to northern most counties in Wisconsin.

Communicable Disease Rate per 1,000

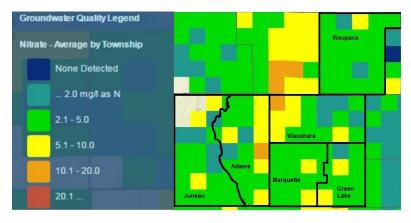


A state map of Lyme disease incidences can be seen in Appendix B.

Environment

Drinking Water

With economies based on agriculture, manufacturing and tourism, it is important to monitor nitrate levels in the water supplies. Sources of nitrate may include agricultural runoff, municipal and industrial waste water, animal feedlots, and septic tanks. CWHP's nitrate levels are higher than the state average, with the average nitrate concentration shown by township in the map shown to the right.

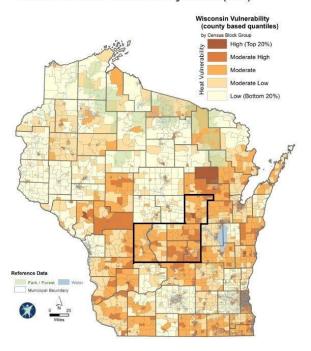


Source: U.W. Stevens Point

	Adams	Green Lake	Juneau	Marquette	Waupaca	Waushara	Wisconsin
Nitrate	1.8	4.9	2.6	3.2	2.5	2.6	1.5
mg/L							

Source: Environmental Health Profiles

Wisconsin Heat Vulnerability Index (HVI)



Heat Vulnerability

Extreme heat negatively affects human health in terms of causing heat exhaustion, stroke and even death. It can also make pre-existing chronic conditions worse, such as respiratory and heart diseases. As Wisconsin's climate changes, temperatures will rise and extreme heat events will increase in frequency (WHITEHOUSE). From 1950-2006, Wisconsin has seen an increase of average annual temperature by 1.5°F (WICCI). In addition to exposure to heat and climate conditions, many other factors, such as infrastructure, physiology, culture, and demographics influence the risk of heat-related impacts. This is especially true for the elderly, socially isolated individuals, and those with pre-existing chronic conditions. Seen in the map to the left, CWHP residents have moderate to high vulnerability in the case of extreme heat. They also have higher rates of ER visits compared to the state.

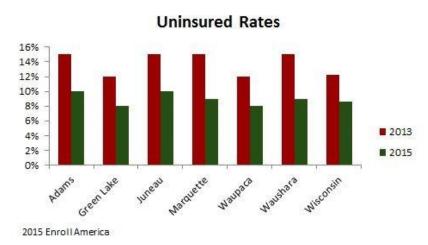
Heat Stress ER	Adams	Green Lake	Juneau	Marquette	Waupaca	Waushara	Wisconsin
visits per 100,000	46.8	19.2	48.6	28.8	21.6	23.6	16.5
people							

Source: Environmental Health Profiles

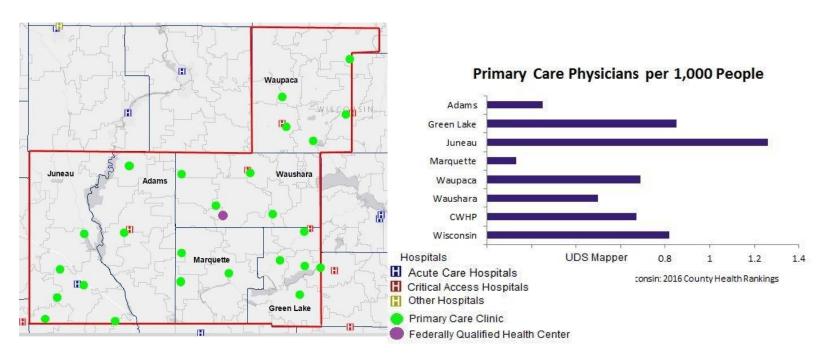
Access to Healthcare

Medical

Access to healthcare encompasses factors including health insurance, local care options, affordability, and social or cultural barriers. Not having health insurance is a significant barrier to utilizing the healthcare system. Since Affordable Care Act's first open enrollment period, all CWHP counties have seen a modest decrease in their uninsured rates, similar to Wisconsin as a whole.



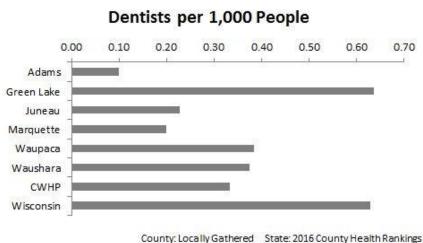
^{*}Those over 65 years old are not included in the uninsured rate.



Not having enough local providers, along with their location, can act as barriers to receiving the care necessary to gain access to satisfactory health outcomes. Compared to the state, the majority of CWHP has a lower ratio of primary care physicians. These physicians are considered those specializing in general practice medicine, family medicine, pediatrics and internal medicine (County Health Rankings and Roadmaps). The locations of their offices, along with hospitals and a federally qualified health center, can be seen above.

Dental

Oral Health is essential to general health and quality of life. Risk factors for oral disease typically include an unhealthy diet, tobacco use, poor oral hygiene, and social determinants. Poor and disadvantaged groups bear a disproportionate share of these diseases. Unmet dental care can increase the likelihood of oral disease, ranging from cavities to oral cancer, which can lead to pain and disability. The majority of CWHP has a lower number of dentists per 1,000 people, compared to the state average. All but



Green Lake County are federally designated dental care shortage areas (Wisconsin Office of Rural Health). It is also important to note a number of dentists in CWHP practice in multiple counties. Additionally, only Juneau and Waushara have free/low cost dental care access through facilities operated by Family Health/ La Clinica.

Health Behaviors

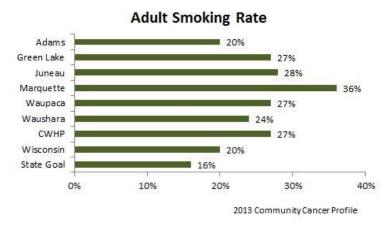
Smoking

Adams

Green

Lake

It is well known that smoking is bad for your health. It can lead to lung cancer, heart disease and stroke. Unfortunately, smoking continues to be a problem for CWHP and the state as a whole. It is an issue for the general population, and especially mothers who are pregnant. In Adams County, the rate of smoking during pregnancy is 30%, compared to the state rate of 14% (County Health Rankings and Roadmaps).

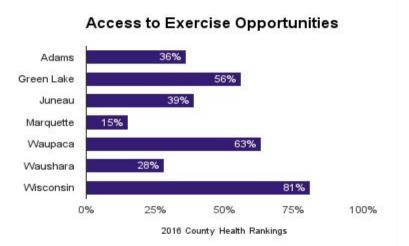


2016 County Health Rankings

Marquette Waupaca Waushara Wisconsin

Physical Inactivity

The graph to the left depicts the percent of adults over age 20 reporting no leisure-time physical activity. It is known that lack of physical activity is related to health care expenditures for circulatory system diseases (Rosenberger, Sneh, Phipps, and Gurvitch 2005). A decrease in physical activity can also be related to diabetes, hypertension, and cancer.



The ability to be physically active is dependent on access. CWHP is limited in access, partly because of how rural the counties are. Residents must travel longer distances to reach exercise facilities and safe places to walk or bike. Another barrier can be the cost of memberships to the gyms present in the counties.

It is important to note the percentages to the left do not include access to schools, which most CWHP residents can use during the winter to walk in. Many residents also have ample access to nature. This allows the possibility for higher levels of outdoor physical activity and nature-based play and recreation.

PRIORITIES

Criteria Used to Identify Priorities

Criterion 1. The magnitude of the problem

- ➤ What is the percentage of the population impacted?
- ➤ Is it associated with the leading cause of death in 4 of the 6 counties?

Criterion 2. The severity of the problem

- ➤ Is it worse than the Wisconsin average?
- ➤ Is the trend worsening in 4 of the 6 counties?

Criterion 3. A high need among vulnerable populations (health equity)

- ➤ Is the problem equally distributed across the population?
- ➤ If not, what groups are more likely to be at risk or currently impacted?

Criterion 4. The community's capacity and/or willingness to act on the issue

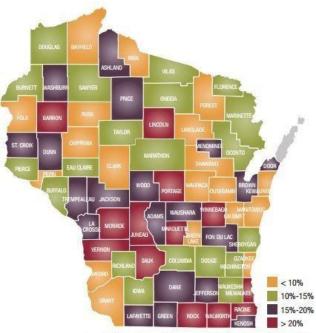
- ➤ Was it identified by community stakeholders in 4 of the 6 counties?
- ➤ Was it identified by primary community input in 4 of the 6 counties?
- ➤ Was it identified by Wisconsin Health Improvement Planning Process?

The steering committee identified priorities utilizing the above criteria, with the understanding that community feedback was the driving component to determine the most appropriate health focus areas. The input gathered allowed for the ranking of all the identified health focus areas, with a summary of results provided below. Additional information can be found in Appendix C.

Order of		y Feedback				
Priority	Adams	Green	Juneau	Marquette	Waupaca	Waushara
		Lake				
1st	Access to	Mental	AODA	AODA	AODA	AODA
	Care	Health				
2 nd	Employment	AODA	Obesity	Mental	Mental	Chronic
				Health	Health	Disease
3 rd	AODA	Nutrition	Mental	Nutrition	Poverty	Mental
			Health	& PA		Health
4 th	Mental	Physical	Chronic	Tobacco	Chronic	Nutrition
	Health	Activity	Disease		Disease	& PA
5 th	Physical	Chronic	Nutritio	Access to	Access to	Aging
	Activity	Disease	n & PA	Care	Care	Problems

^{*}Before we discuss the priorities chosen, it is important to keep in mind a strong association between poor social, mental, and physical health outcomes in adulthood, and Adverse Childhood Experiences (ACEs).

An Adverse Childhood Experience (ACE) is a traumatic experience which occurs prior to the age of 18- such as child physical or sexual abuse, having an incarcerated household member, exposure to domestic violence or parental divorce (Children's Hospital of Wisconsin). These ACEs can disrupt healthy brain development required for emotional control, learning capacity, and the ability to form healthy relationships. Research has also demonstrated a strong dose-response relationship between ACEs and a variety of substance-related behaviors (SAMHSA). This means the more ACEs an individual has, the more likely it is they will have substance abuse behaviors.



Prevalence of 4 or more ACEs in Wisconsin Counties

Priority 1. Alcohol and Other Drug Abuse (AODA)

Drug and alcohol dependence often go hand in hand. They can also lead to other chronic diseases such as diabetes and heart disease. Preventing substance abuse disorders and related problems is essential to CWHP residents' behavioral and physical health.

Relevant Strengths:

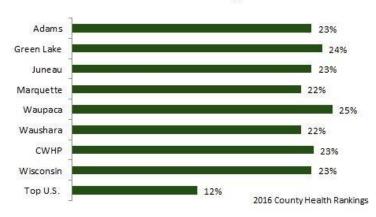
- Drug Free Adams County Coalition
- AWARE and School Counselor Grants in schools
- Wisconsin State Drug Database
- Statewide "Dose of Reality" Campaign
- Regional Comprehensive Community Services
- Treatment and Alternatives Diversion (TAD) Court in planning stages
- Social Host Ordinance

Relevant Challenges:

- Availability, affordability, attractiveness, and acceptability of alcohol in Wisconsin
- Lack of professional assistance in overcoming substance abuse (detox, long term care, etc.)
- High number of ACEs
- High opioid prescription rates
- High multiple provider rates, e.g. "Doctor Shopping"
- Limited locations to send patients for AODA treatment

Excessive Drinking Rate

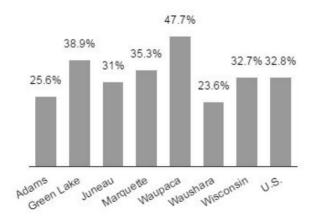
Excessive drinking is defined as both binge and heavy drinking. Binge drinking is 5 or more drinks in about 2 hours, which brings blood alcohol concentration levels to 0.08 g/dL. Heavy drinking is when someone consumes 5 or more drinks at one time for 5 or more days within a span of 30 days (National Institute on Alcohol Abuse). Adverse health outcomes associated with excessive drinking include violence, suicide, vehicle crashes, STIs, and

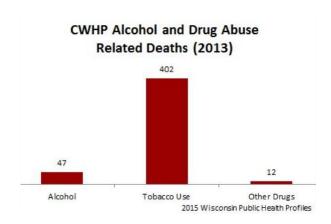


heart problems among others. CWHP is not alone in high rates of drinking. Similar to the state average, CWHP has a rate double that of top U.S. performers. An equal concern among CWHP is the early initiation of drinking among our youth.

The Youth Risk Behavior Survey (YRBS) is taken by middle and high school children to monitor six types of healthrisk behaviors that contribute to the leading causes of death and disability. From the YRBS and other youth surveys, we were able to find out how many high school students reported having one alcoholic drink in the last 30 days.

One Alcoholic Drink (Last 30 days)



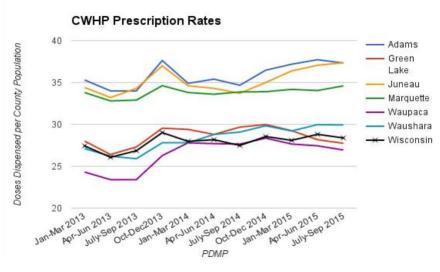


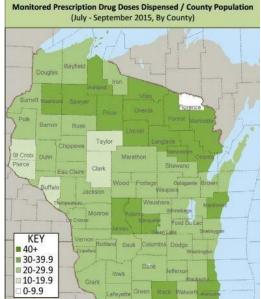
Tobacco use remains the single most preventable cause of death and disease in the United States. In 2013 there were a total of 1,941deaths in CWHP, of which 402 were attributed to tobacco. 23.75% of the deaths in CWHP can be attributed to alcohol, drugs or tobacco use. This is higher than the state's 20.68% (Public Health Profiles).

Wisconsin Prescription Drug Monitoring Program

The Wisconsin Prescription Drug Monitoring Program (PDMP) is a tool to improve patient care and safety and to reduce the abuse of prescription drugs. The monitored drugs are state and federally controlled substances in schedule II, III, IV, or V that require a prescription to be legally dispensed. Examples include opioids, stimulants and antipsychotics.

The map of Wisconsin offers a snapshot of the most recent prescription rates and illustrates three counties in CWHP are higher than the majority of the state.





Source: Wisconsin Prescription Drug Monitoring Program (PDMP)

AODA Adams County Key Findings

 Adams County is among the highest in the state for number of prescription drug doses dispensed per population, and markedly worse regarding multiple provider episodes for prescription opioids (WI Prescription Drug Monitoring Program).

Rate of opioid prescriptions per 1,000 residents							
Wisconsin	Adams						
207.7	296.2						
193.4	298.1						
Rate of multiple provider episodes for prescription opioids per 100.000							
Wisconsin	Adams						
22.2	38.9						
Data source: Wisconsin Prescription Drug Monitoring							
Program, Department of Safety and Professional Services							
	Wisconsin 207.7 193.4 e provider episodes opioids per 100,000 Wisconsin 22.2 consin Prescription I						

• While the state's rates of drug-related hospitalizations and law arrests are dropping, Adams County's rates have been increasing significantly.

Drug-related hospitalizations, rate per 100,000 population					
Year	Adams	Wisconsin			
2012-13	159	268			
2013-14	172	261			

Drug law arrests, rate per 100,000 population					
Year	Adams	Wisconsin			
2012-13	309	454			
2013-14	378	439			

Source: Wisconsin Epidemiological Profile on Alcohol and Other Drugs, 2016

- Adams County has almost twice the rate of drug-related suspensions and expulsions, per 1,000 students, than the state average (WISEdash Public Portal, WI Dept. of Public Instruction).
- Over 14% of high school students report having been offered, sold or given illegal drugs on school property (Youth Risk Behavior Survey, 2016).
- The percentage of driving deaths related to alcohol consumption is 61% in Adams County, compared to 38% statewide (County Health Rankings, 2016).

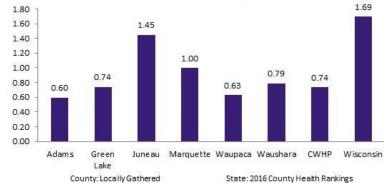
Priority 2. Mental Health

Many factors can contribute to one's mental health. Risk factors can include biology, a family history of mental health problems, or ACEs. In Wisconsin, a higher number of ACEs has been linked to higher rates of depression. With a high prevalence of ACEs in the CWHP region, there is great need for mental health services. Those seeking care in the CWHP region will most likely have trouble due to the low number of providers in the area.

Relevant strengths:

- Community support systems
- Friendship Connection
- Trauma-Focused provider trainings
- Focus on parent education and trauma in Health and Human Services
- Comprehensive Community Services



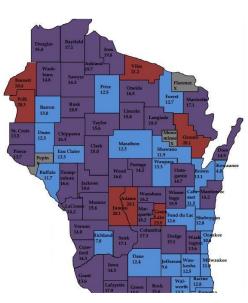


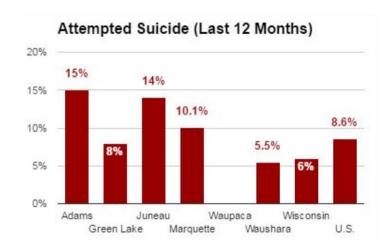
Relevant challenges:

- Mental health stigma
- Mental health provider shortages- especially psychiatry
- High number of ACEs
- Social isolation & physical isolation
- Limited social associations
- Limited natural supports
- Limited private providers
- High need and limited access lead to long waiting times

Suicide impacts families, communities, and society in terms of economic and human costs. Suicide rates in the U.S. have been on the rise since 1999 (CDC). All of CWHP, except for Waupaca County, have suicide rates higher than the statewide average of 13.5 per 100,000 people. Preventing suicidal behavior before it ever occurs, while addressing risk and protective factors, is essential to improve the mental health of CWHP.







The chart to the left illustrates the percentage of high school students in each county who reported attempting suicide within the last 12 months of taking the YRBS. This measure can be a gauge for the mental health of our students.

*Waupaca County does not have data for this measure.

Mental Health Adams County Key Findings

- Adams County's uninsured rate (13%) is higher than the state's (11%), making mental health services unaffordable and inaccessible to many in need (County Health Rankings, 2016).
- Adams County has a Resident: Mental Health Provider ratio of 2,890:1, compared to the state's average of 590:1, meaning mental health treatment is severely limited (County Health Rankings, 2016).
- 15-20% of Adams County residents have experienced over 4 Adverse Childhood Experiences in their lives, leading to significantly greater mental health treatment needs later in life (Children's Hospital of Wisconsin).
- 22.4% of high school students reported that their mental health was not good on 14 or more of the past 30 days (Youth Risk Behavior Survey, 2016).

Priority 3. Nutrition and Physical Activity (Adams County Community Priority)

Good nutrition and physical activity are essential to health improvement in any population. Many diseases and chronic health conditions can be prevented by regular exercise and healthy diet, and overall quality of life can benefit greatly. This can save a community money in the long run, in the form of health care costs, chronic disease and other services. However, given the fact that food insecurity plagues Adams County and that physical activity availability is low, these challenges must be approached from the fundamental level of access. Community members must first have access to high quality food and exercise spaces before measurable health impacts will result.

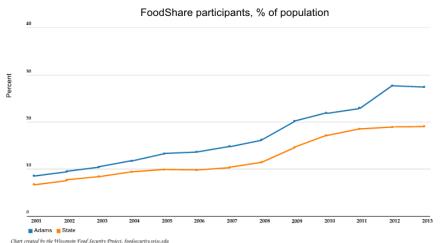
Relevant strengths:

- Be Healthy community coalitions focused on nutrition and physical activity issues locally
- High access to outdoor recreation
- Vibrant agricultural economy locally
- Free breakfast and supper program at schools
- Numerous parks providing access to green spaces and playground facilities
- Strong little league/youth sports programs
- Farmers' markets providing high-quality local produce
- Senior Meal sites and Meals on Wheels
- Everyday physical education implemented in elementary schools
- WIC Program

Relevant challenges:

- Access to affordable exercise opportunities
- High food insecurity rates
- Absence of community pools or fitness centers
- Poor food access throughout much of the county
- Poor walkability of many streets in local towns
- Limited access to recreational equipment for residents living outside of towns
- Recent loss of formal recreational opportunities
- Limited non-competitive activities for youth

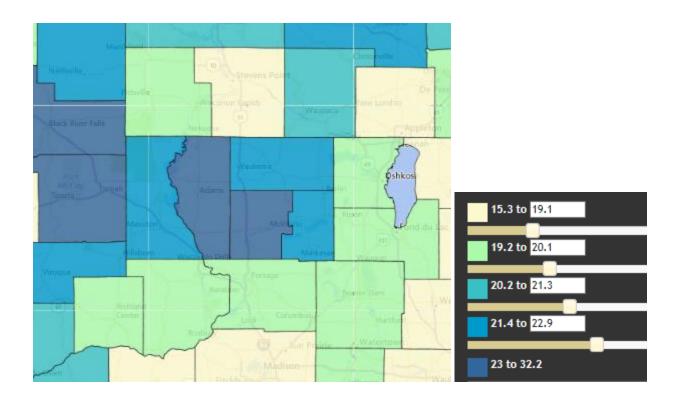
Food Share



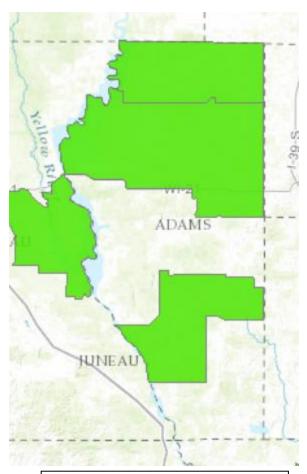
FoodShare participitation is an indication of financial hardship in a community. The elevated Adams County rate, compared to the state level, show that a great deal of people need financial assistance with food purchases.

Food Insecurity

It is estimated that over 2,500 individuals in Adams County are food insecure. Of these, 800 are children (Data from Feeding America database). Food insecurity is defined by the USDA as "A household-level economic and social condition of limited or uncertain access to adequate food." The following map shows food insecurity rates in the region, with Adams County faring in the worst category at over 23% food insecurity (Food Security Project).



Food Deserts



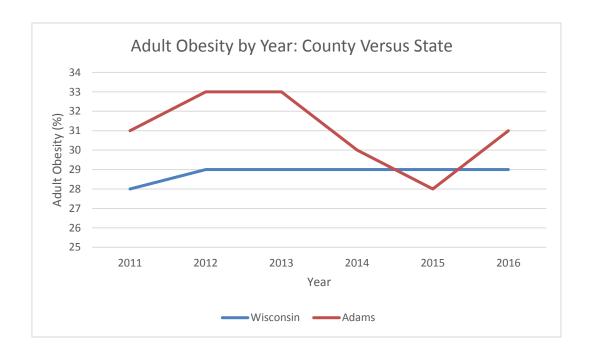
In rural areas, a food desert is defined as a place where residents live more than 10 miles from a supermarket or large grocery store. As can be seen in the map to the left, large portions of the county can be classified as food deserts, meaning transportation and location can contribute to food access issues.

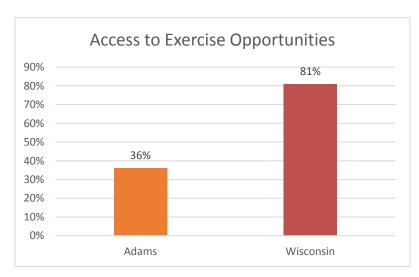
Source: USDA Economic Resource

Service

Obesity

Counterintuitively, food hardship and obesity often go hand-in-hand in populations. Less-secure individuals must often eat the higher-calorie, cheaper convenience foods in areas of poor accessibility and financial status. The following chart shows that Adams County generally trends higher in obesity rates than the state (County Health Rankings).





Another primary issue in Adams County is access to exercise opportunities. As the chart depicts, our access is significantly lower than the state's, adding to county obesity and chronic disease issues (County Health Rankings, 2016).

Source: County Health Rankings

Nutrition and Physical Activity Progress

Nutrition and physical activity have been prioritized in the Adams County Needs Assessment for 7 years, and significant progress has been made. Below are some key initiatives and projects that have resulted from the efforts to prioritize and improve Adams County's nutrition and physical activity.

Nutrition

- Additional Farmers' Market implementation
- Access to monthly Second Harvest Mobile Food Pantry
- Initiation of Farm-to-School programming with local school districts
- Community Garden implementation
- Community designation for Free-and-Reduced Lunch at schools
- School Supper Program

Physical Activity

- Everyday Physical Activity implemented in elementary schools
- Expansion of youth soccer program
- Rejuvenated Be Healthy Coalition
- Increase in Worksite Wellness programming by local employers
- Increased recreational programming in northern and southern regions of county
- Adams Running Club
- Bicycle Pedestrian Plan development

Appendix A

CENTRAL WISCONSIN HEALTH PARTNERSHIP'S TIMELINE

CWHP generally followed the *WisconsinGuidebook on Improving the Health of Local Communities*. This framework is built on the *Action Cycle* model used by the County Health Rankings and Roadmaps. Adjustments were made in order to meet the local and regional context.

The Start- Central Wisconsin Health and Economic Development Summit

155 stakeholders registered to attend the August 2015 Summit, with representatives from all six counties and a breadth of public, private, and community sectors. Across all sessions, the most common regional theme was workforce development, with a focus on linkages from education and skill-building to jobs, regional economic development, and attention to early childhood support and lifelong learning. While collaboration was identified as an asset for the region, there was a recognized need for better engagement, communication, aligned vision and regional partnership (Forward Community Investments).

The key themes that emerged from summit conversations across all six counties were:

- 1. Workforce Development
- 2. Family and Community Development
- 3. Transportation and Communication Connectivity
- 4. Collaboration

Planning (October 2015-February 2016)

The purpose of the regional health assessment is to assemble, with partners, to assess the region's resources and needs to align our counties under two regional priorities.

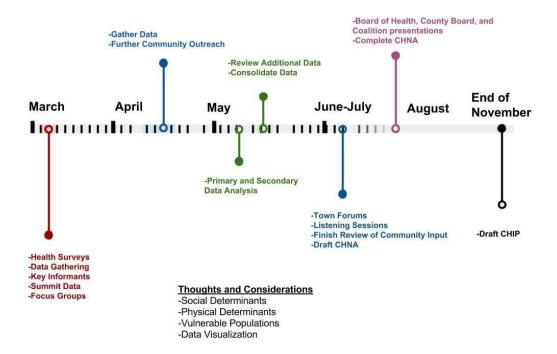
Questions we had were:

- What collaboration can and cannot be done with a needs assessment between the hospitals and public health departments?
- Will a regional health assessment fit in the Public Health Accreditation Board's (PHAB) guidelines?
- How many regional priorities will we focus on and what will they be?
- What will the state's new assessment look like? How will it guide our priorities?

Assessing and Prioritizing (March 2016-July 2016)

Identifying county themes and strengths, county health status and data needed were the beginning goals of the assessment. Processes used to gather this information included steering committee brainstorming, key informant input and the development of a data subcommittee to gather the individual county data needed.

Individual county data was gathered, with the help of partner agencies and stakeholders, through surveys, town hall forums, focus groups and key informant interviews. This community feedback was used to narrow our regional priorities to two health topics. Adams County then assessed the results of the Health Survey, and priorities laid out by the Be Healthy Community Coalition to choose the third topic of nutrition and physical activity.



Finalizing and Engaging (August 2016 and Beyond)

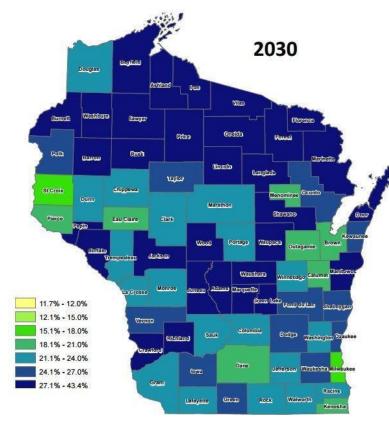
Once the health assessment is complete, each health department will inform their communities of the findings and ask for input and help developing improvement plan objectives. The regional and local steering committees will then begin the community health improvement plan (CHIP) process. Once completed, community health partners from a variety of sectors will utilize the CHIP to set priorities, coordinate activities, and collaborate to improve the health status of CWHP's counties.

APPENDIX B

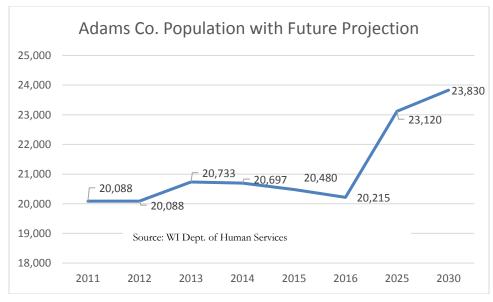
Community Health Assessment- Adams County Data

Population

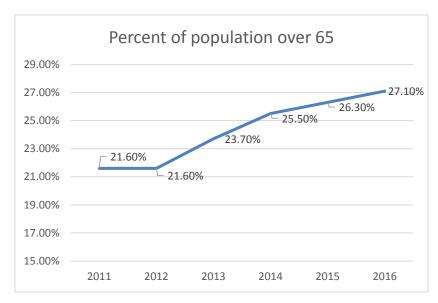
Though the Adams County population has fallen since 2013, the percentage of the population over 65 has increased steadily. The Wisconsin map to the right shows the 65 and older population projections for the year 2030; the graphs below show the overall population and age trends in the county since 2011, and projected until 2030.



Source: Wisconsin DOA



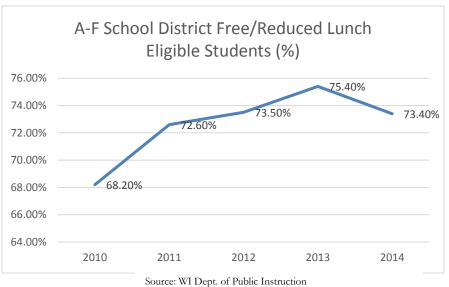
Source: County Health Rankings, Prepared by Lee Bartnik



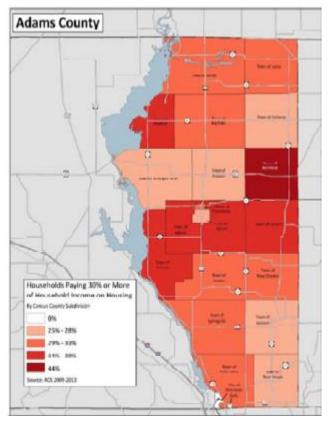
An aging demographic provides unique opportunities and challenges for a community. Older residents increased need for assisted living programs, increased accessibility and transportation support, and higher demand on chronic disease providers. However, the retired population in Adams County is a great resource for volunteerism and community connectedness.

Free and Reduced Lunch

Free-and-reduced school lunch percentages can provide valuable and timely information about community poverty. Though 29% of children currently live in poverty in Adams County, compared with 18% in Wisconsin (County Health Rankings 2016), the free and reduced lunch rates imply the problem may be much greater.



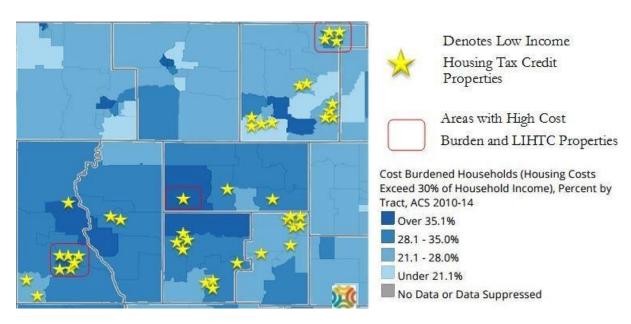
Housing



Housing Burden

The map to the left illustrates the rates of households considered "house burdened," meaning they pay over 30% of their income on housing. Housing costs play a major role in the health of Adams County residents, and the following graph shows the severe shortage of low income housing tax credit properties in the county (2009-2013 American Community Survey 5-year estimates).

Low-Income Tax Credit Housing Availability



Source: US Census Bureau, American Community Survey

Youth Risk Behavior Survey

The Youth Risk Behavior Survey is an assessment of key mental and emotional factors that affect the mental wellness of students. The survey was carried out in April, 2016, in Adams-Friendship High School and Middle School.

Key Findings: High School

45.7% of high school students reported feeling that they were **under stress or pressure** Most of the Time or Always over the past 30 days.

23.6% of students seriously considered attempting suicide over the past 12 months.

22.4% of students report having 14 or more poor mental health days over the past 30 days.

33.3% of students reported that they **have gone hungry** because there was not enough food in their home within the past 30 days.

14.2% of students have been offered, sold or given an **illegal drug on school property** over the past 12 months.

Key Findings: Middle School

49.6% of students feel that illegal drugs are a problem in school.

66.9% of students have been bullied on school property.

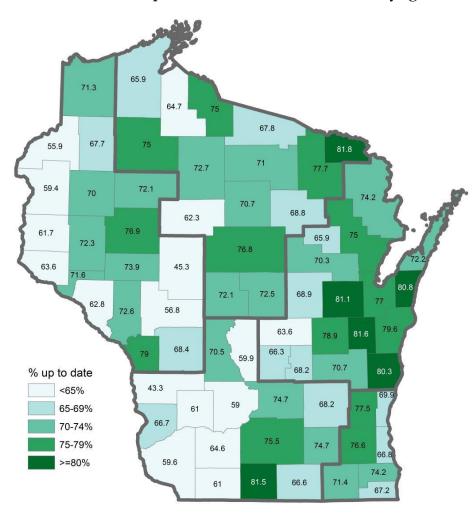
19.7% have missed school because they felt unsafe at school.

37.5% of students have gone hungry over the last month because there was not enough food in their home.

Communicable Diseases

Vaccination Rates

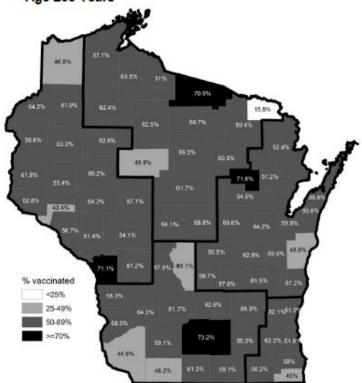
Percent of children up-to-date with vaccination series' by age 24 months



The Wisconsin map to the left shows that under 60% of Adams children under County months are up-to-date with their vaccinations. This is in the lowest category throughout the state. Additionally, the county level has dropped from the 2014 level of provides 63.9%. This additional level of risk numerous communicable diseases in the county (source: Department of Health Services).

Influenza Vaccination Rates, 2015-16

Age ≥65 Years



The map to the left shows that only 45% of adults over 65 got their influenza vaccines in 2015-16. Older adults are at higher risk for the contraction of influenza, and the low vaccine numbers present risks for the County (Source: WI Department of Health Services).

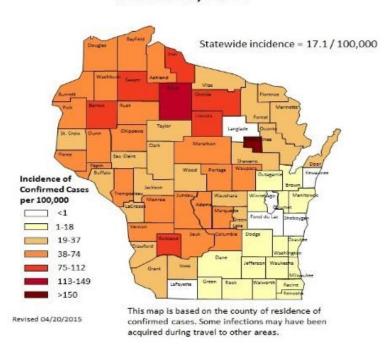
Vaccination Rates Over Time

County/City	Year	DTaP (4)	HepB (3)	Hib (3)	MMR (1)	Polio (3)	Pneumo (4)	Varicella (1)	4313314 Series
Adams	2012	75.35%	88.03%	87.32%	83.10%	88.73%	83.10%	81.69%	69.01%
	2013	69.34%	86.13%	83.94%	86.13%	85.40%	74.45%	82.48%	62.77%
	2014	69.44%	83.33%	79.17%	82.64%	83.33%	75.00%	79.17%	63.89%
	2015	63.06%	82.17%	81.53%	82.17%	80.25%	71.34%	78.34%	59.87%

Source: WI Dept. of Health Services

The figure above shows that the rates for all documented vaccines have been dropping significantly over the 4 years shown. This is likely related to access issues, including insurance and transportation deficits.

Lyme Disease Annual Incidence Wisconsin, 2014



The Wisconsin map to the left illustrates the locations of confirmed Lyme disease cases in 2014. It is more likely to be seen in central and northern Wisconsin.

Adams County Fluoridation by Public System

Public Supply	Population Served	Fluoride Status
Adams Waterworks	1847	Adjusted
Berry Ridge Estates	60	Non-Adjusted
Coons Inc.	75	Non-Adjusted
Federal Correctional Institution	1550	Non-Adjusted
Friendship Waterworks	781	Adjusted
Hyde-Away Pines	40	Non-Adjusted
Preston Pines	38	Non-Adjusted
Rome Water Utility	2775	Adjusted
Westwind Mobile Home	90	Non-Adjusted

Source: Wisconsin Public Water Supply Fluoridation Census

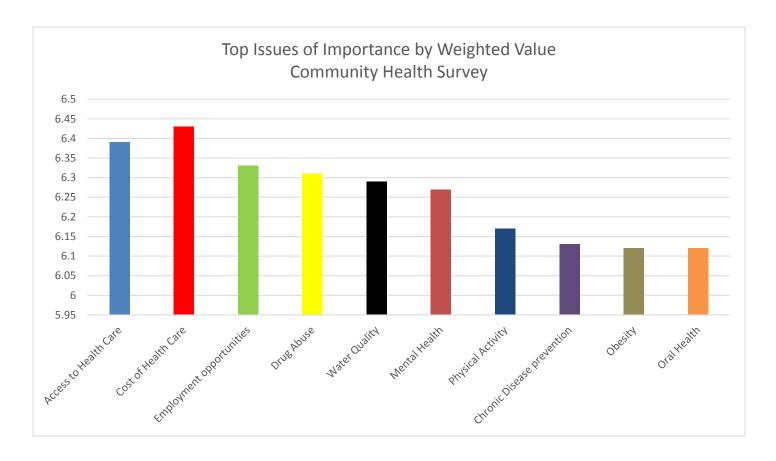
Adjusted refers to levels of fluoride at the recommended level. Those non-adjusted are below the recommended level.

Besides a low number of providers, another oral health disparity is a lack of access to water with fluoride in it. The vast majority of Adams County residents rely on private wells for drinking water (64.9%) without access to the benefits of fluoridation. Among residents in Adams County, who rely on a public water supply, 74.5% have access to optimally fluoridated water. A bright spot is the diligence of the Municipal-run water systems in the County.

Community Feedback

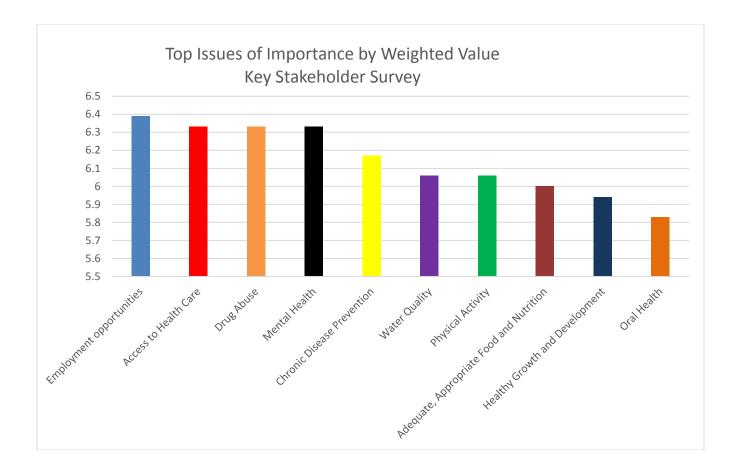
Top Focus Areas Identified Through Health Survey

The Adams County Health Survey was disseminated in March, 2016 and received 602 respondents, making it a statistically significant sample of the county. Respondents were asked to rate different issues on a scale of 1-7, based on their importance to the health of the community. The following graph depicts the top 10 issues identified, and their average importance according to survey respondents.



Key Stakeholder Survey

The Adams County Key Stakeholder survey used the same questions and scale as the Community Health Survey, but was disseminated to providers and key community members. The top 10 issues identified are depicted below, in order of importance to stakeholders.



Top Physical Activity and Nutrition Priorities Outlined by Be Healthy Adams County Coalition

The Be Healthy Adams County Coalition consists of various community members and partners meeting regularly to discuss practical and evidence-based initiatives to increase the health of the county. The group is represented by community members, Adams County Health and Human Services, Moundview Memorial Hospital and Clinics, Grande Cheese, Allied Cooperative, Ho-Chunk Nation Department of Health, Central Wisconsin Community Action, Adams County Government, Adams County Chamber of Commerce, Adams County University of Wisconsin-Extension, Hazel Street Farmer's Market, local Lions club members and additional community volunteers. Following are the priorities outlined during a coalition kick-off event open to all community members to increase the health of Adams County residents.

Physical Activity

- 1. Access to Parks and Recreation
 - a. Bike/Walking Paths
 - b. County Recreational Program
- 2. Access to Recreational Facilities
 - a. Fitness Center
 - b. Swimming Pool

Nutrition

- 1. Eating Less Processed Food
 - a. Cooking Class/Education
 - b. Creating Community Will
- 2. Eating Fresh Foods
 - a. Gardens
 - b. Food Exchange Programs

Key Informant Interview Results

When 18 key informants in the community were asked about their two primary health concerns, the most frequent responses corresponded to two primary issues: Economic/Employment Issues and Drug Abuse/Mental Health.

Economic/Employment Issues

"[The top two issues are] Employment/Income Opportunities- the community has very limited employment opportunities which impacts many other health factors. Poverty is a cyclic in the community. This impacts our children and their futures. Many families that struggle with poverty also face many other issues including employment issues, mental health concerns, AODA, housing issues/transience, etc."

Drug Abuse/Mental Health

"[The top two issues are] Mental Health and Drug Abuse - We have little to nothing in our community to help these individuals. Many continue to suffer because adequate care is either denied or not given to them. Most relies on if they have insurance or not. Many get lost in the cracks after rehab or mental health stay and return to their old ways."

Steps Forward: Community Health Improvement Plan

Upon completion of this Community Health Assessment, the Adams County Health and Human Services Department- Division of Public Health, along with CWHP partner departments, will embark in the formation of a Community Health Improvement Plan. According to Wisconsin Statute 251.05(3), a local health department shall "Involve key policymakers and the general public in determining and developing a community health improvement plan that includes actions to implement the services and functions specified under s. 250.03(1)(L)."

Our intention is to continue to collaborate with local partners, community members and CWHP colleagues to address the issues identified in this Community Health Assessment. We will achieve this through the development of a community health improvement plan which will practically, functionally and effectively enhance the health of Adams County and the CWHP region as a whole.



Acknowledgements

Adams County Health and Human Board	Adams-Friendship Area School District	Adams County Health and Human Services Department	Adams County Chamber of Commerce and Tourism
Adams County Sheriff's Office	Moundview Memorial Hospital and Clinics	Adams County Promise Neighborhood	Adams County ADRC
University of Wisconsin Extension	Family Health/ La Clinica	Adams County GIS	Wisconsin Health Services- Southern Regional Office

Limitations

Although this assessment reflects the most recent and best available health information for CWHP and Adams County, there are important limitations to note.

- For teen data used, not every county conducted the same youth survey and a few of them were done in different years. Additionally, not all of the surveys asked every grade in high school.
- Input from vulnerable populations, like the Amish, can be hard to obtain
- Not all of the data gathered is from the same year
- Much of the data is hard to put into a trend as the way they are measured changes year to year

References

Agnesian HealthCare. Logo Picture. Retrieved from http://www.agnesian.com/

Centers for Disease Control and Prevention, National Center for Health Statistics. *Increase in Suicide in the United States*, 1999-2014. April 2016. Retrieved from http://www.cdc.gov/nchs/products/databriefs/db241.htm

Children's Hospital of Wisconsin. *Wisconsin ACE Brief 2011-12: Wisconsin ACE Map.* Retrieved from https://preventionboard.wi.gov/Documents/WisconsinACEsBrief 202011-2012.pdf

County Health Rankings and Roadmaps 2016. Outcomes and Measures County Comparison. Retrieved from http://www.countyhealthrankings.org/app/wisconsin/2016/compare/snapshot?counties=55_001%2B55_047%2B55_057%2B55_057%2B55_135%2B55_137

County Health Rankings and Roadmaps 2016. Smoking during pregnancy. Retrieved from http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/10/data

County Health Rankings and Roadmaps. Action Center . Retrieved from

http://www.countyhealthrankings.org/roadmaps/action-center

County Health Rankings and Roadmaps. Rankings Model. Retrieved from http://www.countyhealthrankings.org/our-approach

Divine Savior HealthCare. Logo Picture. Retrieved from http://www.dshealthcare.com/Main/Home.aspx

Economic Innovation Group. The 2016 Distressed Communities Index: An Analysis of Community Well-Being Across the United States. 2016. Retrieved from http://eig.org/dci/interactive-maps/u-s-zip-codes

Egerter S, Braveman P, Sadegh-Nobari T, Grossman-Kahn R, Dekker M. Education Matters for Health. Princeton, NJ: RWJF Exploring the Social Determinats. May 2011. Retrieved from http://www.rwjf.org/en/library/research/2011/05/education-matters-for-health.html

Enroll America. *All Counties in Wisconsin: Uninsured Rates by major demographic groups.* Retrieved from https://s3.amazonaws.com/assets.enrollamerica.org/wp-content/uploads/2015/11/WI-State-Snapshot-County-table.pdf

Family Health La Clinica. Logo Picture. Retrieved from http://www.famhealth.com/

Feeding America Database. *Map the Meal Gap 2016*. Retrieved from http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2014/WI AllCounties CDs MMG 2014.pdf

Forward Community Investments. *Central Wisconsin Health & Economic Development Summit Summary Report.* October 2015. Retrieved from http://www.cwhpartnership.org/uploads/2/1/4/8/21489738/cwhealth and ed summit report.pdf

Georgia Public Health District Accreditation Program *Public Health Word Cloud* Retrieved from http://www.healthcaregeorgia.org/focus-areas/public-health.cfm

McAlexander KM, Banda JA, McAlexander JW, Lee RE. *Physical activity resource attributes and obesity in low-income African Americans*. <u>J Urban Health.</u> 2009 Sep;86(5):696-707. doi: 10.1007/s11524-009-9385-0. Epub 2009 Jul 8 Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19585244

Mile Bluff. Logo Picture. Retrieved from http://www.milebluff.com/about-mile-bluff.html

Moundview. Logo Picture. Retrieved from http://www.moundview.org/

National Institute on Alcohol Abuse and Alcoholism. *Drinking Levels Defined*. Retrieved from https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking

Prevent Suicide Wisconsin. *Map of Suicide Rates by County*.17 Dec 2015.Retrieved from http://www.preventsuicidewi.org/Data/Sites/16/media/suicide-facts/suicide-rates-by-county 2009-to-2013.pdf

Rosenberger RS, Sneh Y, Phipps TT, Gurvitch R. *A spatial analysis of linkages between health care expenditures, physical inactivity, obesity and recreation supply.* Journal of Leisure Research. 2005; 37.2:216-235 Retrieved from http://js.sagamorepub.com/jlr/article/view/545

SAMHSA's Center for the Application of Prevention Technologies. The Role of Adverse Childhood Experiences in Substance Abuse and Related Behavioral Health Problems. Retrieved from http://www.samhsa.gov/capt/sites/default/files/resources/aces-behavioral-health-problems.pdf

ThedaCare. Logo Picture. Retrieved from https://www.thedacare.org/

Child Abuse and Neglect Prevention Board . The Influence of Adverse Childhood Experiences on the Health of Wisconsin Citizens in Adulthood. 2015. Retrieved from https://preventionboard.wi.gov/Documents/WisconsinACEs2011-13-WEB_FINAL_3.16.pdf

The WHITE HOUSE, Office of the Press Secretary. Fact Sheet: What Climate Change Means for Wisconsin and the Midwest. 6 May 2014. Retrieved from https://www.whitehouse.gov/sites/default/files/microsites/ostp/WISCONSIN NCA 2014.pdf

UDS Mapper. CWHP outline and hospital location. Retrieved from http://www.udsmapper.org/mapESA.cfm

United States Census Bureau, American Community Survey. Cost Burdened Households (Housing Costs Exceed 30% of Household Income, Percent by Tract, American Community Survey 2010-14. Report prepared by Community Commons. Retrieved from http://assessment.communitycommons.org/temp/CC38023RPT.pdf

United States Census Bureau, American Community Survey(ACS). *Data on Educational Attainment.* 2014. Retrieved from https://www.census.gov/hhes/socdemo/education/data/acs/

United States Census Bureau. *QuickFacts*. Retrieved from https://www.census.gov/quickfacts/table/PST045215/00

United States Department of Agriculture: Economic Research Service. Food Access Research Atlas. Retrieved from https://www.ers.usda.gov/data-products/food-access-research-atlas/

United States Department of Labor: Bureau of Labor Statistics. Labor Force Statistics from the Current Population Retrieved from

http://data.bls.gov/pdq/SurveyOutputServlet?request_action=wh&graph_name=LN_cpsbref3

United States Department of Labor: Bureau of Labor Statistics. May 2015 National Occupational Employment and Wage Estimates Retrieved from http://www.bls.gov/oes/current/oes-nat.htm#00-0000

University of Wisconsin-Extension: Wisconsin Food Security Project. Accessed from http://foodsecurity.wisc.edu/mapping.php

University of Wisconsin School of Medicine and Public Health, Carbon Cancer Center. *Community Cancer Profile Waushara County*. March 2013. Retrieved from

http://chdi.wisc.edu/sites/chdi.wisc.edu/files/attachments/Waushara%20County%20Cancer%20Profile%202013.pdf

University of Wisconsin Stevens Point, Center for Watershed Science and Education. *Groundwater Quality Viewer: Nitrates.* Retrieved from http://gissrv2.uwsp.edu/cnr/gwc/pw_web/

Wisconsin CHIPP Infrastructure Improvement Project, Wisconsin Association of Local Health Departments and Boards, University of Wisconsin Population Health Institute. *Wisconsin Guidebook on Improving the health of Local Communities*. February 2015. Retrieved from http://c.ymcdn.com/sites/www.walhdab.org/resource/resmgr/Custom Site/Wisconsin Guidebook v.2.0_Fin.pdf

Wisconsin Diabetes Prevention and Control Program. Division of Public Health, Department of Health Services. *The 2011 Burden of Diabetes in Wisconsin Adult Obesity Rate*. September 2011 Retrieved from https://www.dhs.wisconsin.gov/publications/p0/p00284.pdf

Wisconsin Department of Health Services, Bureau of Environmental and Occupational Health. Wisconsin Heat Vulnerability Index Retrieved from https://www.dhs.wisconsin.gov/images/map-hvi-wi.jpg

Wisconsin Department of Health Services, Division of Care and Treatment Services. *Wisconsin Epidemiological Profile on Alcohol and Other Drugs, 2016.* Retrieved from https://www.dhs.wisconsin.gov/publications/p4/p45718-16.pdf

Wisconsin Department of Health Services, Division of Public Health, Bureau of Communicable Diseases. Lyme Disease Annual Incidence Wisconsin, 2014. 20 April 2015. Retrieved from https://www.dhs.wisconsin.gov/tickborne/lyme/2014data.htm

Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics, Health Analytics Section. Public Health Profiles, Wisconsin 2015 (P-45358-15). September 2015.

Wisconsin Department of Health Services, Division of Public Health, Wisconsin Immunization Program. *Influenza vaccination rates by age and county, Wisconsin, 2015-2016.* Retrieved from https://www.dhs.wisconsin.gov/publications/p01609.pdf

Wisconsin Department of Health Services, Division of Public Health, Wisconsin Immunization Program. Influenza vaccination rates by age and county, Wisconsin, 2015-2016. Retrieved from https://www.dhs.wisconsin.gov/immunization/24monthmap.pdf

Wisconsin Department of Health Services, Division of Public Health, Oral Health Program. Wisconsin Public Water Supply Fluoridation Census. 2013. Retrieved from https://www.dhs.wisconsin.gov/publications/p0/p00103.pdf

Wisconsin Department of Health Services, FoodShare Wisconsin Data. FoodShare Caseload Recipients by Calendar Year. Retrieved from https://www.dhs.wisconsin.gov/foodshare/rsdata.htm

Wisconsin Department of Public Instruction. *Enrollment and Participation Reports*. Retrieved from http://dpi.wi.gov/school-nutrition/program-statistics

Wisconsin DOA Demographic Services, Population Projections, Vintage 2013 Prepared by Eric Grosso, WI Department of Health Services Bureau of Aging and Disability Resources. 2030 Wisconsin Map. Retrieved from https://www.dhs.wisconsin.gov/publications/p0/p00138.pdf

Wisconsin Department of Workforce Development. 2015 WORFKORCE & ECONOMIC PROFILE. 2015. Retrieved from http://worknet.wisconsin.gov/worknet_info/Downloads/CP/waushara_profile.pdf

Wisconsin Environmental Public Health Tracking Program. *Waushara County Environmental Health Profile*. 2015. Retrieved from https://www.dhs.wisconsin.gov/publications/p0/p00719-waushara.pdf

Wisconsin Initiative on Climate Change Impacts (WICCI). Wisconsin's changing climate: impacts and adaptation. Nelson Institute for Environmental Studies, University of Wisconsin and Wisconsin Department of Natural Resources. 2011. Retrieved from http://www.wicci.wisc.edu/report/2011 WICCI-Report.pdf.

Wisconsin Office of Rural Health (WIORH). *Health Professional Shortage Areas Dental Care Map.* December 2015. Retrieved from http://worh.org/sites/default/files/HPSA-Dental%20Care-2014.pdf

Wisconsin Prescription Drug Monitoring Program. *July1-September 30, 2015 Statistics Sheet #11.*12 No. 2015. Retrieved from http://dsps.wi.gov/Documents/PDMP/Stats/Stats_1503.pdf

Wisconsin Prescription Drug Monitoring Program. *Statistics Sheets 2013-2015*. Retrieved from http://dsps.wi.gov/pdmp/stats

Wisconsin's Worknet 2015. Average Wage. Retrieved from http://worknet.wisconsin.gov/worknet/daindustry.aspx?menuselection=da

World Health Organization(WHO). *Health Impact Assessment (HIA)*. Retrieved from http://www.who.int/hia/evidence/doh/en/

Youth Risk Behavior Survey. Adams County. 2016

*Where one county is listed, it can be assumed the same source was used to gather every county's data